



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/589,051	03/26/2007	Katja Berg-Schultz	22234 US (C038435/0199186)	5471
7590 Stephen M. Haracz BRYAN CAVE 1290 Avenue of the Americas New York, NY 10104			EXAMINER MABRY, JOHN	
			ART UNIT 1625	PAPER NUMBER
			MAIL DATE 07/29/2010	DELIVERY MODE PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/589,051	<b>Applicant(s)</b> BERG-SCHULTZ ET AL.	
	<b>Examiner</b> JOHN MABRY	<b>Art Unit</b> 1625	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 26 March 2010.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1,6-10,12,13,16,17,23 and 24 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 15 and 25 is/are allowed.
- 6) ☐ Claim(s) \_\_\_\_\_ is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)         | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)         | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____   | 6) <input type="checkbox"/> Other: _____                          |

***Request for Continued Examination***

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on March 26, 2010 has been entered.

***Response to Applicant's Remarks***

Applicant's response on March 26, 2010 filed in response to the Final Office Action dated March 18, 2009 has been received and duly noted.

In view of this response, the status of the rejections/objections of record is as follows:

***Withdrawn Rejections***

***35 USC § 112 Rejection(s)***

The 112-1<sup>st</sup> rejection of claims 1, 4-10, 12, 13, 15-17 and 23-25 regarding the scope of enablement for X and Y have been overcome in view of Applicant's amendments to the claims.

Claims 1, 4-10, 12, 13, 16, 17, 23 and 24 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention in view of insufficient

Art Unit: 1625

antecedent basis for this limitation in the claim 5 has been overcome in view of Applicant cancelling claim 5.

### ***New Rejections***

#### ***Claim Rejections - 35 USC § 102***

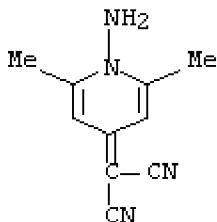
The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 6, 7-9, 12 and 13 are rejected under 35 U.S.C. 102(b) as being anticipated by Van Allan et al (Journal of Chemical and Engineering Data 1977, 22, 101-104).

Van Allan discloses compounds of Formula I where R<sup>1</sup>/R<sup>2</sup>=CN, R<sup>3</sup>/R<sup>4</sup>=H, R<sup>5</sup>/R<sup>6</sup>=CH<sub>3</sub> and X=C<sup>1</sup> alkyl where alkyl is interrupted by N and Y=iodide (see compound IX in Table III, page 103 and compound IX in Table IV, page 103).



***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

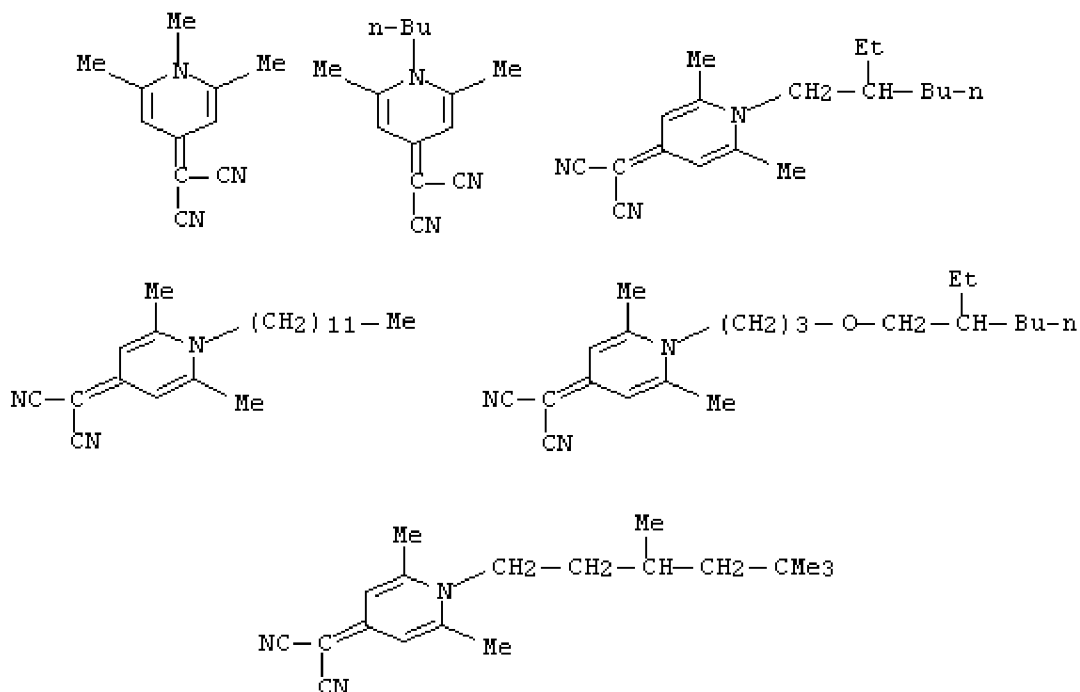
1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 1, 6-9, 12, 13, 16 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over WO 2003/068183 (PTO-1449).

***Scope & Content of Prior Art MPEP 2141.01***

WO '183 discloses compounds of Formula I where R1/R2=CN, R3/R4=H, R5/R6=CH3 and X=alkyl and alkyl interrupted by O (see Example 5, page 15; compounds on page 29, lines 17, 19, 20, 21; Example 8, page 17).

Art Unit: 1625



### ***Differences between Prior Art & the Claims MPEP 2141.02***

WO '183 differs from the instant application as follows: WO '183 discloses neutral compounds versus claimed salts of the instant application.

WO '183 teaches that compounds of Formula I can be converted to salt form which include counterions such as halides, alkali earth metals, alkali metals, alkali hydroxides such as diethanolamine, triethanolamine, aminomethyl propanol (see pages 11, lines 22-34 and 12, lines 1-18).

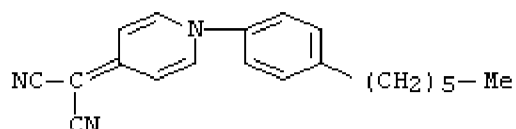
***Prima Facie Obviousness, Rational & Motivation MPEP 2142-2413***

It would be obvious to one of ordinary skill in the art to take the neutral compounds of WO '183 and convert them to salts as taught by WO '183 in order to achieve the claimed compounds of Formula I.

Claims 1, 6-9, 12, 13, 16 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over US 5,783,114 in view of Basin et al Organic Process Research and Development 2000, 4, 427-435.

***Scope & Content of Prior Art MPEP 2141.01***

WO '183 discloses compounds of Formula I where R1/R2=CN, R3/R4=H, R5/R6=H and X=phenylalkyl (see compounds on top of column 10).



Basin et al teaches that compounds can be converted to salt form for modifying aqueous solubility, chemical stability, dissolution rates, solution pH, etc. The specific salts include counterions such as halides, alkali earth metals, alkali metals, alkali hydroxides such as diethanolamine, triethanolamine, aminomethyl propanol (see Table 1, page 428).

***Differences between Prior Art & the Claims MPEP 2141.02***

US '114 differs from the instant application as follows: US '114 discloses neutral compounds versus claimed salts of the instant application.

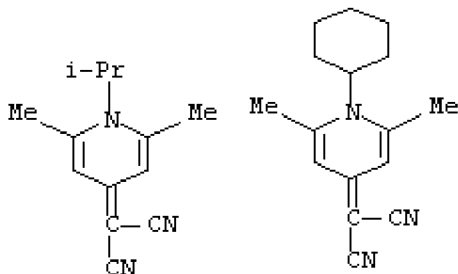
***Prima Facie Obviousness, Rational & Motivation MPEP 2142-2413***

It would be obvious to one of ordinary skill in the art to take the neutral compounds of US '114 and convert them to salts as taught by Basin in order to achieve the claimed compounds of Formula I.

Claims 1, 6-9, 12, 13, 16 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Van Allan et al (Journal of Heterocyclic Chemistry 1971, 8, 367-371) in view of Basin et al Organic Process Research and Development 2000, 4, 427-435.

***Scope & Content of Prior Art MPEP 2141.01***

Van Allan discloses compounds of Formula I where R1/R2=CN, R3/R4=H, R5/R6=CH3 and X= alkyl and cycloalkyl (see compounds 7 and 8 on page 367).



***Differences between Prior Art & the Claims MPEP 2141.02***

Van Allan differs from the instant application as follows: Van Allan discloses neutral compounds versus claimed salts of the instant application.

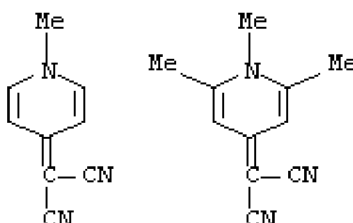
Basin et al teaches that compounds can be converted to salt form for modifying aqueous solubility, chemical stability, dissolution rates, solution pH, etc. The specific salts include counterions such as halides, alkali earth metals, alkali metals, alkali hydroxides such as diethanolamine, triethanolamine, aminomethyl propanol (see Table 1, page 428).

***Prima Facie Obviousness, Rational & Motivation MPEP 2142-2413***

It would be obvious to one of ordinary skill in the art to take the neutral compounds of Van Allan and convert them to salts as taught by Basin in order to achieve the claimed compounds of Formula I.

Claims 1, 6, 7-9, 12, 13, 16 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Boyd et al (Journal of the Chemical Society, Section C: Organic 1967, 19, 1866-1868) in view of Basin et al Organic Process Research and Development 2000, 4, 427-435.

Boyd discloses compounds of Formula I where R1/R2=CN, R3/R4=H, R5/R6=H, CH3 and X=C1 alkyl (see compound IIIa and IVa in Table 3, page 1868).



***Differences between Prior Art & the Claims MPEP 2141.02***

Boyd differs from the instant application as follows: Boyd discloses neutral compounds versus claimed salts of the instant application.

Basin et al teaches that compounds can be converted to salt form for modifying aqueous solubility, chemical stability, dissolution rates, solution pH, etc. The specific salts include counterions such as halides, alkali earth metals, alkali metals, alkali hydroxides such as diethanolamine, triethanolamine, aminomethyl propanol (see Table 1, page 428).

***Prima Facie Obviousness, Rational & Motivation MPEP 2142-2413***

It would be obvious to one of ordinary skill in the art to take the neutral compounds of Boyd and convert them to salts as taught by Basin in order to achieve the claimed compounds of Formula I.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation

Art Unit: 1625

under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

### ***Double Patenting***

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

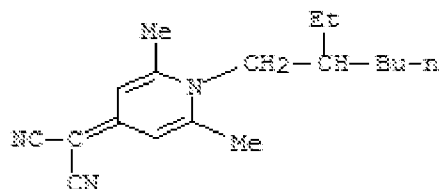
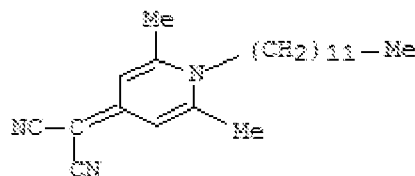
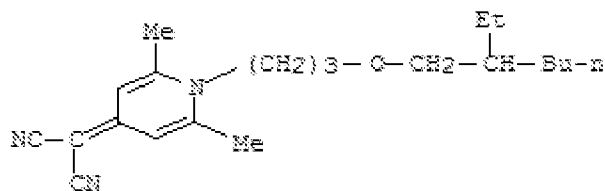
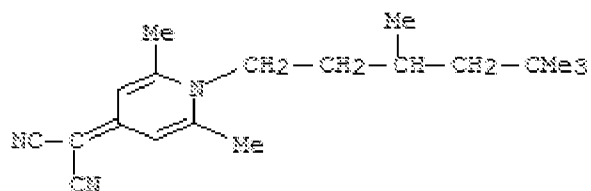
Claims 1, 6-10, 12-14, 16, 17, 23 and 24 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-16 of U.S. Patent No. 7,611,696 (10/494,500). Although the conflicting claims are not identical, they are not patentably distinct from each other because the following.

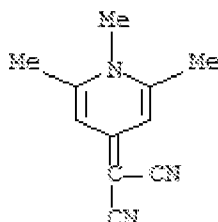
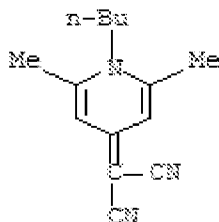
Art Unit: 1625

The instant application claims compounds and compositions of Formula I wherein where R<sup>3</sup>/R<sup>4</sup>=H, R<sup>5</sup>/R<sup>6</sup>=CH<sub>3</sub>, R<sup>1</sup>/R<sup>2</sup>=CN, X=C<sub>1</sub>-C<sub>20</sub> alkylene that optionally contain 1-10 heteroatoms and Y=counter ion.

### ***Scope & Content of Prior Art MPEP 2141.01***

US '696 discloses and claims compound and compositions of Formula I wherein R<sup>3</sup>/R<sup>4</sup>=H, R<sup>5</sup>/R<sup>6</sup>=CH<sub>3</sub>, R<sup>1</sup>/R<sup>2</sup>=CN, X=C<sub>1</sub>-C<sub>20</sub> alkylene that optionally contain 1-10 heteroatoms (as shown below and pages 1-2, Formula I and species therein).





***Differences between Prior Art & the Claims MPEP 2141.02***

US '696 differs from instant application at the Y position: US '696's compounds as shown above are neutral compounds of Formula I versus Applicant's Y being a counter ion. However, US '696 teaches that the addition of electrolytes into the composition of his invention can potentially change the behavior of the hydrophobic emulsifier. US '696 goes on to suggest that these emulsions may contain one of several salts which may include anions such as (a) chloride, sulfate, carbonate, borate or aluminate and (b) organic anions such as but not limited to lactate, acetate, benzoate, etc. (see column 9, lines 29-44). US '696 teach sodium chloride compositions of Formula I (column 18, top table).

Furthermore, the genus of Formula I of reference by US '696 teaches:

[0008] X is a moiety  $R^7$ , when m is 1; and is alkylene or poly(oxyalkylene) when m is 2; and

(see paragraph 8),

US '696's genus also teaches:

[0009]  $R^7$  is hydrogen, alkyl, cycloalkyl, alkoxyalkyl or aryl.

(see paragraph 9).

### ***Prima Facie Obviousness, Rational & Motivation MPEP 2142-2413***

It would be obvious for one of ordinary skill in the art to combine the disclosed compounds along with the teachings of Formula I of US '696 in order to achieve the instant invention. In combination with the disclosed species and teachings as mentioned above, one of ordinary skill would be further motivated to use the reference of US '696 because it's utility is used to as cosmetic or dermatological sunscreen compounds and composition (see page 1, first paragraph) as claimed by instant application.

### ***Conclusion***

#### ***Status of the Claims***

Claims 1, 6-10, 12, 13, 16, 17 and 23-24 are pending and rejected.

Claims 2-5, 11, 14 and 18-22 have been cancelled.

Claims 15 and 25 are allowable.

Art Unit: 1625

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to John Mabry, PhD whose telephone number is (571) 270-1967. The examiner can normally be reached on M-F from 9am to 5pm.

If attempts to reach the examiner by telephone are unsuccessful, the Examiner's primary examiner can be reached at (571) 272-0684, first, or the Examiner's supervisor, Janet Andres, PhD, can be reached at (571) 272-0867. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

/John Mabry/  
Examiner  
Art Unit 1625

/Rita J. Desai/  
Primary Examiner, Art Unit 1625